



## **National Highway Traffic Safety Administration**

**[Docket No. NHTSA-2017-0018]**

### **BMW of North America, LLC and Volkswagen Group of America; Denial of Petitions for Temporary Exemption from FMVSS No. 108 for Vehicles with Adaptive Driving Beam Headlamps**

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

**ACTION:** Notice of denial of petitions for a temporary exemption for vehicles equipped with adaptive driving beam headlighting systems from certain requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 108; “Lamps, reflective devices, and associated equipment.”

**SUMMARY:** This document denies petitions from Volkswagen Group of America (Volkswagen) and BMW of North America, LLC (BMW) (collectively, Petitioners) for temporary exemptions from certain requirements of FMVSS No. 108 to allow installation of adaptive driving beam (ADB) headlighting systems. Both manufacturers requested exemptions on the basis that an exemption would facilitate the development or field evaluation of a new motor vehicle safety feature providing a safety level at least equal to that of the standard. NHTSA has determined that, in light of the publication today of a final rule amending FMVSS No. 108 to allow ADB systems, there is no need to grant the requested exemptions because the standard now allows the deployment of such systems. Accordingly, the petitions are denied.

**FOR FURTHER INFORMATION CONTACT:** John Piazza, Office of the Chief Counsel, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE, Washington, DC 20590. Telephone: 202-366-2992; Email: [John.Piazza@dot.gov](mailto:John.Piazza@dot.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. Background**

On September 11, 2017, NHTSA published a notice of receipt of a petition from Volkswagen for a temporary exemption from certain requirements of FMVSS No. 108 to allow the use of ADB headlights (82 FR 42720). On March 22, 2018, NHTSA published a notice of receipt of a similar petition from BMW (83 FR 12650). That notice also requested additional information from Volkswagen, BMW, and any other manufacturers wishing to submit exemption petitions for ADB systems, to assist NHTSA in evaluating such petitions.<sup>1</sup> Volkswagen and BMW subsequently submitted additional information in response to the 2018 notice.

Adaptive driving beam systems are an advanced type of semiautomatic headlamp beam switching technology that aims to address the tradeoff between forward visibility and glare. ADB systems are capable of producing a dynamic adaptive beam pattern brighter than a conventional lower beam, but not as bright as an upper beam. This adaptive beam is particularly useful for distance illumination of pedestrians, cyclists, animals, and objects in or near the road when other vehicles are present and thus preclude use of the upper beam.<sup>2</sup>

NHTSA is today publishing a final rule amending FMVSS No. 108 to permit ADB systems. The final rule establishes performance requirements to ensure that ADB

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<sup>1</sup> The basis for both petitions is that an exemption would make easier the development or field evaluation of a new motor vehicle safety feature providing a safety level at least equal to that of the standard. 49 CFR 555.6(b).

<sup>2</sup> ADB technology can enhance safety in two ways. First, such systems provide more illumination than existing lower beams by providing a sculpted, dynamic beam pattern that adjusts to avoid glaring other motorists; high-resolution ADB systems are even capable of classifying objects and placing optimized levels of light on all objects in the driver's view (such as retroreflective signs or pedestrians). Second, such systems facilitate increased use of the upper beam in situations where other vehicles will not be glared. For both these reasons, ADB has the potential to reduce the risk of crashes by increasing visibility without increasing glare.

systems operate safely by not glaring other motorists and providing a minimum level of visibility. The final rule is effective immediately.

## **II. Overview of the Petitions**

### Volkswagen Petition

Volkswagen petitioned for an exemption from S9.4 and S10.14.6 of FMVSS No. 108 for its Matrix Beam ADB system on Audi A7 models (which may also include S7 and Rs7 variants). Section S9.4 requires that a vehicle have a means of switching between lower and upper beams. The means must be designed and located so that it may be operated conveniently by a simple movement of the driver's hand or foot. The switch must have no dead point and, except as provided by S6.1.5.2, the lower and upper beams must not be energized simultaneously except momentarily for temporary signaling purposes or during switching between beams. S10.14.6 specifies the photometry requirements for integral beam headlighting systems. Volkswagen indicated that the Matrix Beam may not comply with these requirements.

The basis for the application is that the exemption would make easier the development or field evaluation of a new motor vehicle safety feature providing a safety level at least equal to that of the standard. Volkswagen explained how the Matrix Beam system operates and the safety benefits it believes the system would offer. Volkswagen also submitted additional information in response to NHTSA's request for information in the 2018 notice.

### BMW Petition

BMW petitioned for an exemption from FMVSS No. 108 for BMW i8 vehicles equipped with its Laserlight Glare-Free High Beam Assist. Similar to Volkswagen, BMW sought an exemption from the requirement of S9.4 that prohibits the simultaneous energization of the lower and upper beams and from the upper beam photometry requirements of S10.14.6. BMW stated that the photometry requirements specify

minimum and maximum photometric intensities of the upper beam light that may not be met by the Glare-Free High Beam Assist.

The basis for the application is that the exemption would make easier the development or field evaluation of a new motor vehicle safety feature providing a safety level at least equal to that of the standard. BMW explained how the Glare-Free High Beam Assist operates and the safety benefits it believes the system would offer. BMW also submitted additional information in response to NHTSA's requests for information in the 2018 notice.

### **III. Summary of Comments**

NHTSA received 17 comments on one or both of the petitions. Several manufacturers or trade groups (Truck and Engine Manufacturers Association, SAE, Osram Sylvania Products, Inc., Alliance of Automobile Manufacturers (Alliance), American Trucking Associations, Mercedes-Benz USA, LLC, and Transportation Safety Equipment Institute (TSEI)) commented in support of the petitions. Two public interest groups (Advocates for Highway Safety and Consumers Union) also supported or conditionally supported granting one or both of the petitions. Several individual citizens commented in support of granting one or both of the petitions.

SAE, the Alliance, and Mercedes also responded to NHTSA's 2018 request for additional information. These comments were repeated in these organizations' comments to the ADB NPRM. OSRAM, the Alliance, Mercedes, and TSEI supported SAE's comment. Advocates for Highway Safety commented on Volkswagen's petition and conditionally supported it. Consumers Union commented on several issues, and submitted similar comments to the NPRM.<sup>3</sup>

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<sup>3</sup> NHTSA has addressed all significant comments to the NPRM in the ADB final rule published today.

#### **IV. Agency Analysis and Decision**

NHTSA has considered Petitioners' arguments, the comments received on the petitions, and the final rule that is being issued today. NHTSA has determined that the issuance of the final rule makes it unnecessary for NHTSA to grant the petitions.

Petitioners argue that an exemption is necessary because their ADB systems may not comply with the requirements of S9.4 and S10.14.6. They also contend that an exemption would facilitate the development and field evaluation of their ADB systems because it would allow them to obtain data and consumer feedback on system performance. The publication of the FMVSS No. 108 final rule published today – that is effective immediately – permitting the deployment of ADB systems renders these petitions unnecessary. Petitioners and other manufacturers wishing to equip vehicles with ADB systems may do so, provided that the systems comply with the requirements set out in the final rule.<sup>4</sup>

The requirements adopted by the final rule are necessary to ensure that ADB systems operate safely with respect to glare prevention and visibility. The requirements are generally within the capabilities of current ADB systems (some system modifications might be necessary). These issues are discussed at length in the preamble to the final rule.

We note that the manufacturers' comments regarding the additional information NHTSA requested were also included in the comments those same manufacturers submitted to the ADB rulemaking docket in response to the NPRM. Those comments are addressed in the preamble to the final rule.

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<sup>4</sup> We do not read the petitioners as requesting an exemption from the requirements of the final rule, as the rule did not exist at the time of their petitions. Alternatively, we believe it is not necessary, nor would it be in the public interest, to exempt the ADB systems from the requirements for ADB systems in today's final rule based on the information provided in the petitions.

**Decision**—Based on the foregoing, the petitions from Volkswagen and BMW for temporary exemption are denied.

Authority: 49 U.S.C. 30113; delegations of authority at 49 CFR 1.95 and 501.4, and 501.5.

Steven S. Cliff,  
Deputy Administrator.

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